

Claims:

1. A method for controlling a computer entity to participate in a peer to peer network of a plurality of computer entities, said method comprising:

5

for each computer entity:

operating a peer to peer protocol for enabling said computer entity to utilise resources of at least one other said computer entity of said network, and for
10 enabling at least one other said computer entity of said network to utilise resources of said computer entity; and

operating a process for managing at least one other said computer entity in said network, whenever said resources are not being used by at least one
15 service application at a higher level layer than said peer to peer protocol.

2. The method as claimed in claim 1, wherein said process of managing at least one other computer entity in said network comprises:

20 determining at least one policy by which said computer entity will interact with said at least one other computer entity.

3. The method as claimed in claim 1, wherein said process of managing at least one other computer entity comprises:

25

adopting a policy towards said at least one other computer entity, said policy selected from a set of pre-determined policies for determining a relationship between said computer entity and said at least one other computer entity.

30 4. The method as claimed in claim 1, wherein managing at least one other computer entity in said network comprises a process selected from the set:

placing said at least one other computer entity in quarantine;

controlling access by said at least one computer entity to a communal resources stored on said computer entity; or

- 5 applying a charge for utilisation by said at least one other computer entity of a communal resource.

5. A method of managing a network comprising a plurality of peer to peer computers, said method comprising;

10

at each said computer entity;

determining locally at said computer entity a local policy for management of at least one target computer entity comprising said network;

15

receiving a plurality of local policy messages from a plurality of computer entities comprising said network, each said local policy message describing a local policy applied at a corresponding respective said computer entity to said target computer entity, and

20

determining from said plurality of received local policy data, and from said locally generated local policy, a network management policy to be applied to said target computer entity by said local computer entity.

25

6. The method as claimed in claim 5, further comprising:

broadcasting said network policy to a plurality of peer computers within said network.

30

7. The method as claimed in claim 5, comprising:

monitoring said at least one target computer entity; and

depending upon a result of said monitoring, adopting a pre-determined policy from a stored set of policies, and applying said policy to said at least one target computer entity.

5 8. The method as claimed in claim 5, wherein a said policy comprises a policy selected from the set:

a policy for determining whether or not to place a faulty computer entity into quarantine;

10

a policy for generating a virus alert message for alerting other computer entities in the network that a said target computer entity has a virus;

15 a policy for generating a fault alert message for alerting other computer entities in the network that said target computer entity is faulty;

a policy determining whether to exclude said target computer entity from accessing a particular type of resource;

20 a policy for determining whether to exclude said target computer entity from the network;

a policy for control of access by said target computer entity to a communal resource;

25

a charging policy for charging said target computer entity for accessing a resource.

30 9. The method as claimed in claim 5, comprising applying a monitoring operation to said target computer entity, said monitoring operation selected from the set:

a monitoring operation for remote virus scanning of said target computer;

a monitoring operation for observing a group behavior of a group of target computer entities within said network;

5 a monitoring operation for detecting a security breach in said network;

a monitoring operation for detecting a performance problem of said at least one target computer.

10 10. The method as claimed in claim 5, wherein said step of determining a network management policy comprises:

applying a voting protocol for adopting a common policy amongst a plurality of said computer entities.

15

11. A computer entity comprising:

a peer to peer networking component for allowing said computer entity to engage other computer entities on a peer to peer basis; and

20

a network management component for enabling a said computer entity to participate in management of a peer to peer network, wherein

25 said network management component is configured to operate a process for managing at least one other said computer entity in said network, whenever said resources are not being used by at least one service application at a higher level layer than said peer to peer protocol.

30 12. The computer entity as claimed in claim 11, configured such that said management component is activated whenever said peer to peer network component is operational.

13. The computer entity as claimed in claim 11, wherein said network management component comprises a program data which controls said resources to perform a network management service.

5 14. The computer entity as claimed in claim 11, wherein said network management component operates to apply at least one policy for determining a mode of operation of said computer entity in relation to at least one other said computer entity of said network.

10 15. The computer entity as claimed in claim 11, wherein said network management component operates to:

communicate with a plurality of other computer entities of said network for sending and receiving policy data concerning an operational policy towards a
15 target computer entity; and

determine, from a consideration of policy data received from said other computer entities, a global policy to be adopted by each computer entity in said network, towards a said target computer entity.

20

16. A data storage media comprising program data for controlling a computer entity to participate in a peer to peer network, said program data comprising instructions for:

25 operating a peer to peer protocol for enabling said computer entity to utilise resources of at least one other computer entity of said network, and for enabling at least one other said computer entity of said network to utilise resources of said computer entity; and

30 operating a process for managing at least one other said computer entity in said network, whenever said resources are not being used by at least one service application at a higher level layer than said peer to peer protocol.

17. A method for controlling a computer entity to participate in a peer to peer network of a plurality of computer entities, said computer entity comprising:

a set of computing resources, and

5

at least one higher level service provided by at least one service application,

said method comprising:

10 operating a peer to peer protocol for enabling said computer entity to utilise resources of at least one other said computer entity of said network, and for enabling at least one other said computer entity of said network to utilise resources of said computer entity; and

15 operating a process for managing at least one other said computer entity in said network, whenever said resources are not being used at least one service application at a higher level layer than said peer to peer protocol.

18. The method as claimed in claim 17, wherein said computer entity
20 automatically operates said process for managing at least one other computer entity, in response to receipt of a service request from at least one of said plurality of computer entities, not including said computer entity itself.

19. A method for controlling a computer entity to participate in a peer to
25 peer network of a plurality of computer entities, said method comprising:

for each computer entity:

30 operating a peer to peer protocol for enabling said computer entity to utilise resources of at least one other said computer entity of said network, and for enabling at least one other said computer entity of said network to utilise resources of said computer entity; and

operating said process for managing at least one other computer entity, in response to receipt of a service request from at least one of said plurality of computer entities, not including said computer entity itself.

5 20. A computer entity comprising:

a peer to peer networking component for allowing said computer entity to engage other computer entities on a peer to peer basis; and

10 a network management component for enabling a said computer entity to participate in management of a peer to peer network, wherein

said network management component is configured to operate a process for managing at least one other said computer entity in said network in response
15 to receipt of a service request from at least one of said plurality of computer entities, not including said computer entity itself.

20